

We claim:

1. A method for notifying an end user of a powered device on an Ethernet based network that the powered device will not be powered due to an excess demand condition, the method comprising:
 - 5 detecting an attached powered device;
 - identifying an excess demand condition;
 - supplying power to said attached powered device for a first time interval thereby notifying an end user that the powered device is not being powered because of an excess demand condition.
- 10 2. A method according to claim 1, wherein said powered device is a IEEE 802.3 compliant device.
3. A method according to claim 1, wherein said detecting is accomplished over a connection selected from among 10BaseT, 100BaseT and 1000BaseT.
- 15 4. A method according to claim 1, wherein said supplying power is accomplished by one of an Ethernet switch and a Midspan device.
5. A method according to claim 1, further comprising identifying the class of said attached powered device, said class comprising the power requirements of said attached powered device.
- 20 6. A method according to claim 1, further comprising signaling said attached powered device of said excess demand condition.

7. A method according to claim 6, further comprising displaying on said attached powered device a message indicative of said excess demand condition.
8. A method according to claim 1, further comprising storing an
5 identifier of said detected attached powered device in a queue.
9. A method according to claim 5, further comprising storing an identifier of said detected attached powered device associated with said class of said powered device in a queue.
10. A method according to claim 8, further comprising alternately
10 supplying power to each of said attached powered devices in said queue for a second time interval.
11. A method according to claim 10, further comprising signaling said attached powered device of said excess demand condition.
12. A method according to claim 11, further comprising displaying on
15 said attached powered device a message indicative of said excess demand condition.
13. A method according to claim 10, wherein said second time interval is substantially the same as said first time interval.
14. A method according to claim 1, wherein said first time interval is
20 between 10 seconds and 2 minutes.
15. A method according to claim 1, wherein said first time interval is between 30 seconds and 1 minute.

16. A method according to claim 10, wherein said second time interval is between 10 seconds and 2 minutes.
17. A method according to claim 8, wherein said first time interval is a function of the number of said identifiers in said queue.
- 5 18. A method according to claim 9, wherein said first time interval is a function of sum of the power requirements represented by said class of said identifiers in said queue.
19. A method according to claim 8, further comprising:
- detecting an additional power condition;
- 10 powering at least one attached powered device identified in said queue; and
- removing said powered at least one attached powered device from said queue.
20. A method according to claim 19, further comprising:
- 15 temporarily supplying power to at least one attached powered device remaining in said queue for said first time interval thereby notifying an end user that the powered device is not being powered because of said excess demand condition.
21. An apparatus for notifying an end user of a powered device on an
- 20 Ethernet based network of that the powered device will not be powered due to an excess demand condition, the apparatus comprising:

a powered device detector, for detecting an attached powered device;

an excess demand identifier associated with said powered device
detector, for identifying an excess demand condition;

a timer for timing a first time interval;

5 a power enabler associated with said excess demand identifier and said timer, for
supplying power to said detected attached powered device for said first time interval
thereby notifying an end user that the powered device will not be powered
because of said identified excess demand condition.

22. An apparatus according to claim 21, wherein said attached powered
10 device is a IEEE 802.3 compliant device.

23. An apparatus according to claim 21, wherein said attached powered
device detector is connected to said powered device over a connection
selected from among 10BaseT, 100BaseT and 1000BaseT.

24. An apparatus according to claim 21, wherein said power enabler is
15 located in one of an Ethernet switch and a Midspan device.

25. An apparatus according to claim 21, further comprising a powered
device class identifier for identifying the class of said attached powered
device, said class comprising the power requirement of said attached
powered device.

20 26. An apparatus according to claim 21, further comprising signaling
means associated with said power enabler for signaling said attached
powered device of said identified excess demand condition.

27. An apparatus according to claim 26, further comprising a display connected to said powered device for displaying a message indicative of said excess demand condition.
28. An apparatus according to claim 21 further comprising:
- 5 a storer associated with said power enabler; and
- a queue associated with said storer,
- said storer storing an identifier of said detected attached powered device in said queue.
29. An apparatus according to claim 25 further comprising:
- 10 a storer associated with said power enabler; and
- a queue associated with said storer,
- said storer storing an identifier of said detected attached powered device associated with said class of said attached powered device in said queue.
- 15 30. An apparatus according to claim 28, further comprising an alternator associated with said power enabler said timer and said queue, wherein said timer times a second time interval, and said alternator alternately powers each of said attached powered device in said queue for said second time interval.

31. An apparatus according to claim 30, further comprising signaling means associated with said power enabler for signaling said attached powered device of said identified excess demand condition.
32. An apparatus according to claim 31, further comprising a display
5 associated with said powered device for displaying a message indicative of said excess demand condition.
33. An apparatus according to claim 30, wherein said second time interval is substantially the same as said first time interval.
34. An apparatus according to claim 21, wherein said first time interval is
10 between 10 seconds and 2 minutes.
35. An apparatus according to claim 21, wherein said first time interval is between 30 seconds and 1 minute.
36. An apparatus according to claim 30 wherein said second time interval is between 10 seconds and 2 minutes.
- 15 37. An apparatus according to claim 28, wherein said first time interval is a function of the number of said identifiers in said queue.
38. An apparatus according to claim 29, wherein said first time interval is a function of the total power requirements represented by said class of said identifiers in said queue.
- 20 39. An apparatus according to claim 28 further comprising:

a power condition detector, for detecting an additional power condition; and

a remover, for removing the identification of at least one attached powered device for which power is now available from said queue.

5 40. A powered device adapted to sense an excess demand condition comprising:

a controller;

a display associated with said controller; and

a non-volatile memory associated with said controller,

10 whereby said controller compares a current time marker with a time marker stored on said non-volatile memory, and in the event the difference between said current time marker and said stored time marker are less than a specified time interval displays a message indicating an excess demand condition on said display.

15 41. A powered device according to claim 40, wherein said powered device is a IEEE 802.3 compliant device.

42. A powered device according to claim 40, wherein said powered device comprises an Internet Protocol (IP) telephone, an IP camera, a laptop computer or other portable computing device, a desktop computer, a door
20 controller, a cellular base station or a wireless access control.

43. A method for detecting an excess demand condition in a powered device, comprising:

obtaining a current time marker;

5 comparing said current time marker with a previously stored time marker, thereby obtaining a time difference; and

displaying an excess demand condition message in the event that said time difference is less than a specified time interval.

44. A method for detecting an excess demand condition in a powered device, comprising:

10 obtaining a current time marker;

retrieving a last two previously stored time markers;

comparing said last two previously stored time markers to obtain a first time difference;

15 comparing the last of said last two previously stored time markers to said current time marker to obtain a second time difference; and

displaying an excess demand condition message in the event that said first time difference is less than a first specified time interval, and said second time difference is less than a second specified time interval.